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09/768,500	01/25/2001	Hidekazu Takahashi	35.C15059	5327

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NEW YORK, NY 10112

EXAMINER

MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,500

Applicant(s)

TAKAHASHI ET AL.

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 11 and 13 - 19 is/are rejected.
- 7) ☒ Claim(s) 1, 9, 11, 12, 14, 16 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The disclosure is objected to because of the following informalities: typographical errors.
On page 22 (line 18), the Applicant states, "solid-state image pickup device 4."

However, the solid-state image pickup device, as shown in figure 19, is 104.

Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: a lack of agreement.
Figure 10 is described in the disclosure prior to the description of figure 16; however, it is not until the description of the figure 16 that the Examiner learns of the purpose of reference signs 11 – 14 originally shown in figure 10.

Appropriate correction is required.

Drawings

4. Figures 1A, 1B, 2A, and 2B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "6" has been used to designate both a color filter array (figures 1B, 2A, 2B,

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4B, 6B, 7A, and 7B) and a silicon substrate (figures 10, 12, 13, and 18). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "7" has been used to designate both a silicon substrate (figures 1B, 2A, 2B, 4B, 6B, 7A, and 7B) and an evened passivation layer (figures 12 and 18). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "8" has been used to designate both a light shielding black filter layer (figures 7A and 7B) and a microlens planarizing layer (figures 12 and 18). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 9d (page 17, lines 19) and 10 (page 19, line 10). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

9. **Claims 1, 9, 11, 14, 16, and 18** are objected to because of the following informalities: typographical errors.

For the above-identified claims, the claim first introduces “a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas.” Later, in the claim, the claim refers back to the plurality of converging lenses in singular form. For instance, the claim states, “positions of said converging lens” which is interpreted as multiple positions of a single converging lens. The Examiner believes this is a typographical error and should be corrected to state, “positions of said converging lenses”. For the purposes of examination, the Examiner will interpret it according to the suggested correction.

Furthermore, only Claims 1 and 11, repeat the error again with “said opening area” which should be corrected to state, “said opening areas”. Again, for the purposes of examination, the Examiner will interpret it according to the suggested correction

Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. **Claims 1 – 4, 6, 7, 16, and 18** are rejected under 35 U.S.C. 102(e) as being anticipated by Yamaguchi et al.

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12. For **Claim 1** (please see objection above), Yamaguchi et al. disclose, as shown in figures 2 – 5 and as stated in columns 5 (lines 54 – 67), 6 (lines 1 – 14), 7 (lines 20 – 24, 66, and 67), 8 (lines 1 – 4, 18 – 30, 42 – 67), and 9 (lines 1 – 9), an image pickup apparatus comprising:

an image pickup area (see figures 1 and 2) including a plurality of photoelectric conversion areas (22);

a plurality of converging lenses (27) for converging light on a plurality of photoelectric conversion areas; and

a light shielding area (26) having a plurality of opening areas (“center of the opening”; see column 6, lines 1 – 14) through which light is incident upon the plurality of photoelectric conversion areas,

wherein positions of said converging lens (27) and said opening area are shifted inward (“displaced toward the center of the semiconductor chip”; as clearly shown in figures 2 and 3 and stated in column 6, lines 11 – 14) than a corresponding photoelectric conversion area (22).

13. As for **Claim 2**, Yamaguchi et al. disclose an image pickup apparatus according to Claim 1, wherein a shift amount between the opening area and the photoelectric conversion area becomes larger at a position nearer to a peripheral area of said image pickup area.

As clearly shown in figures 2 and 3, the converging lenses (27) are “displaced toward the center of the semiconductor chip”. In the center of the semiconductor chip the converging lenses (27) are approximately aligned with respect to the photoelectric conversion areas (22) and in the periphery of the semiconductor chip the converging lenses (27) are displaced with respect to the photoelectric conversion areas (22), thus the shift amount is larger at a position nearer to a peripheral area.

14. As for **Claim 3**, Yamaguchi et al. disclose an image pickup apparatus according to Claim 1, wherein a center of said converging lens (27) is approximately coincident with a center of said opening area ("center of the opening"). In the center portion, as shown in figure 2, the center of the converging lens (27) is coincident with a center of said opening area ("center of the opening").

15. As for **Claim 4**, Yamaguchi et al. disclose an image pickup apparatus according to Claim 1, wherein a position of said converging lens (27) is shifted inward than a corresponding opening area ("center of the opening"). In the peripheral portion, as shown in figure 2, the center of the converging lens (27) is shifted inward than a corresponding opening area ("center of the opening").

16. As for **Claim 6**, Yamaguchi et al. disclose, as shown in figures 1 and 2, an image pickup apparatus according to Claim 1, wherein said image pickup area includes a plurality of image pickup areas (26).

17. As for **Claim 7**, Yamaguchi et al. disclose, as shown in figure 2, an image pickup apparatus according to Claim 6, where same color filter (24) is disposed for each of the plurality of image pickup areas (26). The color filter layer (24) is composed of the same continuous material, i.e. there are no discontinuities.

18. For **Claim 16** (please see objection above), Yamaguchi et al. disclose, as shown in figures 2 – 5 and as stated in columns 5 (lines 54 – 67), 6 (lines 1 – 14), 7 (lines 20 – 24, 66, and 67), 8 (lines 1 – 4, 18 – 30, 42 – 67), and 9 (lines 1 – 9), an image pickup apparatus comprising:
an image pickup area (see figures 1 and 2) including a plurality of photoelectric conversion areas (22); and

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a plurality of converging lenses (27) for converging light on a plurality of photoelectric conversion areas;

wherein positions of said converging lens (27) are shifted inward ("displaced toward the center of the semiconductor chip"; as clearly shown in figures 2 and 3 and stated in column 6, lines 11 – 14) than a corresponding photoelectric conversion area (22), and a pitch between a plurality of converging lenses in a first area (center portion) is different from a pitch between a plurality of converging lenses (27) in a second area (peripheral portion).

If the pitch between all converging lenses (27) in both the center portion and the peripheral portion were equidistant then it would be impossible to achieve the effect of Yamaguchi et al. Yamaguchi et al. clearly states in column 7 (lines 25 – 44), that the effect of the present invention is to prevent light diagonally entering the photodiode from being cut off by the light shield (26) and the converging lenses (27), thus, the light shield (26) and the converging lenses (27) are displaced in a peripheral portion to ensure that photosensitivity is not reduced.

19. For **Claim 18** (please see objection above), Yamaguchi et al. disclose, as shown in figures 2 – 5 and as stated in columns 5 (lines 54 – 67), 6 (lines 1 – 14), 7 (lines 20 – 24, 66, and 67), 8 (lines 1 – 4, 18 – 30, 42 – 67), and 9 (lines 1 – 9), an image pickup apparatus comprising:

an image pickup area (see figures 1 and 2) including a plurality of photoelectric conversion areas (22); and

a plurality of converging lenses (27) for converging light on a plurality of photoelectric conversion areas;

wherein in a peripheral area of said image pickup area, a position of said converging lens (27) are shifted inward ("displaced toward the center of the semiconductor chip"; as clearly

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shown in figures 2 and 3 and stated in column 6, lines 11 – 14) than a corresponding photoelectric conversion area (22), and in at least two image pickup areas (center and peripheral portions), shift amounts (pitch) between said converging lens (27) and the photoelectric conversion area (22) are different.

If the shift amount (pitch) between all converging lenses (27) and the photoelectric conversion area (22) in both the center portion and the peripheral portion were equidistant then it would be impossible to achieve the effect of Yamaguchi et al. Yamaguchi et al. clearly states in column 7 (lines 25 – 44), that the effect of the present invention is to prevent light diagonally entering the photodiode from being cut off by the light shield (26) and the converging lenses (27), thus, the light shield (26) and the converging lenses (27) are displaced with respect to the photoelectric conversion areas (22) in a peripheral portion to ensure that photosensitivity is not reduced.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. **Claims 5, 8 – 10, 17, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al.

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22. For **Claim 9** (please see objection above), Yamaguchi et al. disclose, as shown in figures 2 – 5 and as stated in columns 5 (lines 54 – 67), 6 (lines 1 – 14), 7 (lines 20 – 24, 66, and 67), 8 (lines 1 – 4, 18 – 30, 42 – 67), and 9 (lines 1 – 9), an image pickup apparatus comprising:

an image pickup area (see figures 1 and 2) including a plurality of photoelectric conversion areas (22); and

a plurality of converging lenses (27) for converging light on a plurality of photoelectric conversion areas, said converging lenses (27) being formed on a layer (24) evened by a CMP process (see explanation below);

wherein positions of said converging lens (27) are shifted inward (“displaced toward the center of the semiconductor chip”; as clearly shown in figures 2 and 3 and stated in column 6, lines 11 – 14) than a corresponding photoelectric conversion area (22).

As stated in column 2 (lines 54 – 65), reference signs 23 and 24 represents flattening layers (insulation films) and/or color filters. Yamaguchi et al. do not specifically disclose the manufacturing technique; however does state, in column 7 (lines 20 – 24), that the flattening layers are fabricated using a “conventional method”.

A conventional method for fabricating flattening layers is Chemical Mechanical Polishing (CMP). Chemical Mechanical Polishing (an older terminology) or rather Chemical Mechanical Planarization is a process whereby a chemical reaction increases the mechanical removal rate of a material. CMP is commonly used to polish off high spots on wafers or films deposited on wafers, flattening the film or wafer, referred to as planarization. The chemical reaction that increases the mechanical removal rate is commonly tailored to provide a higher removal rate of one material versus another material. The chemical action in CMP helps to

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achieve higher selectivity's of one material to another than a strictly mechanical process would provide.

Therefore, **Official Notice** is taken that both the concepts and the advantages of using a CMP process to form a flattening/evening layer are well known and expected in the art. At the time the invention as made, it would have been obvious to one with ordinary skill in the art have formed the flattening/evening layer by a CMP process as a means to ensure a constant depth of focus within the substrate and to increase the reliability of the chip by preventing an unduly thinning of the wiring patterns cause by uneven layers.

23. As for **Claims 5, 8, 10, 17, and 19**, Yamaguchi et al. disclose, as stated in column 9 (lines 3 – 9), an image input device (electronic camera system) capable of picking up images can be made using the amplifier-type solid-state image sensor device of the present invention. However, Yamaguchi et al. do not disclose the details of the electronic camera system including an A/D converter, a signal processing unit, and a memory unit.

However, **Official Notice** is taken that both the concepts and advantages of incorporating an A/D converter for converting a signal from said image pickup area into a digital signal; a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and a memory unit for storing a signal from said signal processing unit are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to incorporate the said features as means to store digital images ready for further processing on a remote digital computer processing station.

24. **Claims 11 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. in view of Sayuk et al.

25. For **Claim 11** (please see objection above), Yamaguchi et al. disclose, as shown in figures 2 – 5 and as stated in columns 5 (lines 54 – 67), 6 (lines 1 – 14), 7 (lines 20 – 24, 66, and 67), 8 (lines 1 – 4, 18 – 30, 42 – 67), and 9 (lines 1 – 9), an image pickup apparatus comprising:

an image pickup area (see figures 1 and 2) including a plurality of photoelectric conversion areas (22); and

a plurality of converging lenses (27) for converging light on a plurality of photoelectric conversion areas, said converging lenses (27) being formed on a layer (24) evened by a CMP process (see explanation below); and

a second light shielding area (26) having a plurality of opening areas (“center of the opening”; see column 6, lines 1 – 14) through which light is incident upon the plurality of photoelectric conversion areas (22),

wherein positions of said converging lens (27) and the opening area of said second light shield (26) are shifted inward (“displaced toward the center of the semiconductor chip”; as clearly shown in figures 2 and 3 and stated in column 6, lines 11 – 14) than a corresponding photoelectric conversion area (22).

However, Yamaguchi et al. do not disclose a first light shielding area having a plurality of opening areas through which light is incident upon the plurality of photoelectric conversion areas wherein said second light shielding area being formed above said first light shielding area.

On the other hand, Sayuk et al. also disclose an image pickup apparatus comprising a light shielding area. More specifically, Sayuk et al. disclose, as shown in figure 3, a first light

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shielding area (M_L) and a second light shielding area (M_H) formed above the first light shielding area. As stated in column 2 (lines 7 – 13), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a first light shielding area (M_L) formed below a second light shielding layer (M_H), as taught by Sayuk et al., in the image pickup apparatus, disclosed by Yamaguchi et al., as a means to give extra protection against light that has traveled through cracks formed in a single light shielding layer so as to prevent faulty image sensor performance. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to incorporate a first light shielding area formed below a second light shielding layer, as taught by Sayuk et al., in the image pickup apparatus, disclosed by Yamaguchi et al.

26. As for **Claim 13**, Yamaguchi et al. disclose, as stated in column 9 (lines 3 – 9), an image input device (electronic camera system) capable of picking up images can be made using the amplifier-type solid-state image sensor device of the present invention. However, Yamaguchi et al. do not disclose the details of the electronic camera system including an A/D converter, a signal processing unit, and a memory unit.

However, **Official Notice** is taken that both the concepts and advantages of incorporating an A/D converter for converting a signal from said image pickup area into a digital signal; a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and a memory unit for storing a signal from said signal processing unit are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to incorporate the said features as means to store digital images ready for further processing on a remote digital computer processing station.

27. **Claims 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al. in view of Martin.

28. For **Claim 14** (please see objection above), Yamaguchi et al. disclose, as shown in figures 2 – 5 and as stated in columns 5 (lines 54 – 67), 6 (lines 1 – 14), 7 (lines 20 – 24, 66, and 67), 8 (lines 1 – 4, 18 – 30, 42 – 67), and 9 (lines 1 – 9), an image pickup apparatus comprising:

an image pickup area (see figures 1 and 2) including a plurality of photoelectric conversion areas (22); and

a plurality of converging lenses (27) for converging light on a plurality of photoelectric conversion areas;

wherein a position of said converging lens (27) are shifted inward (“displaced toward the center of the semiconductor chip”; as clearly shown in figures 2 and 3 and stated in column 6, lines 11 – 14) than a corresponding photoelectric conversion area (22).

However, Yamaguchi et al. do not disclose wherein the plurality of photoelectric conversion areas in said image pickup area are disposed in a curved shape.

On the other hand, Martin also disclose an image pickup apparatus comprising a plurality of photoelectric conversion areas. More specifically, Martin disclose, as shown in figure 7 and as stated in column 8 (lines 43 – 59), wherein a plurality of photoelectric conversion areas in an image pickup area are disposed in a curved shape. As stated in the abstract, at the time the invention was made, one with ordinary skill in the art would have been motivated to arrange the plurality of photoelectric conversion areas in a curved shape, as taught by Martin, in the image pickup apparatus, of Yamaguchi et al., as a means to remove distortion caused by the image

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taking lens. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to arrange the plurality of photoelectric conversion areas in a curved shape, as taught by Martin, in the image pickup apparatus, of Yamaguchi et al.

29. As for **Claim 15**, Yamaguchi et al. disclose, as stated in column 9 (lines 3 – 9), an image input device (electronic camera system) capable of picking up images can be made using the amplifier-type solid-state image sensor device of the present invention. However, Yamaguchi et al. do not disclose the details of the electronic camera system including an A/D converter, a signal processing unit, and a memory unit.

However, **Official Notice** is taken that both the concepts and advantages of incorporating an A/D converter for converting a signal from said image pickup area into a digital signal; a signal processing unit for executing a color process for the digital signal supplied from said A/D converter; and a memory unit for storing a signal from said signal processing unit are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to incorporate the said features as means to store digital images ready for further processing on a remote digital computer processing station.

Allowable Subject Matter

30. **Claim 12** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As for **Claim 12**, while the prior art teaches of an image pickup apparatus comprised of a plurality of photoelectric conversion areas and two light shielding layers, wherein a second light

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shielding layer is formed above a first light shielding layer, the prior art does not teach or fairly suggest wherein a color filter is disposed between the first and second light shielding areas.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure. The following is a brief description of the prior art made of record.

- US 5,610,390; US 6,008,511; US 6,518,639 B2; and US 6,137,535 all disclose, in the very least, an image pickup apparatus comprising an image pickup area including a plurality of photoelectric conversion areas and a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas, wherein positions of said converging lens and said opening area are shifted inward than a corresponding photoelectric conversion area.

- US 6,704,051 B1 discloses, in the very least, an image pickup apparatus comprising an image pickup area including a plurality of photoelectric conversion areas wherein the plurality of photoelectric conversion areas in said image pickup area are disposed in a curved shape.

- US 6,339,506 B1 discloses, in the very least, a plurality of converging lenses are disposed in a curved shape.

- US 6,093,081 discloses, in the very least, an image pickup apparatus including a CMP manufacturing technique.

- US 5,986,704 discloses, in the very least, an image pickup apparatus comprising and image pickup area including a plurality of photoelectric conversion areas, color filters, and light shields, wherein the light shields and the color filters are displace with respect to their corresponding photoelectric conversion areas.

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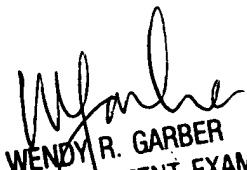
○ US 6,069,350 discloses, in the very least, an image pickup apparatus comprising an image pickup area including a plurality of photoelectric conversion areas and a plurality of converging lenses for converging light on a plurality of photoelectric conversion areas, wherein positions of said converging lens and said opening area are at various pitches.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
June 9, 2004


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TECHNOLOGY CENTER 2600